



Transportation Analysis

Traffic Projections on TH 694
From TH 35E to TH 35W
TA-M304

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THE MINNESOTA DEPARTMENT OF TRANSPORTATION
PLANNING DIVISION
PEOPLE AND GOODS MOVEMENT SECTION



DEPARTMENT OF TRANSPORTATION
Room 820

Office Memorandum

TO: Jerry Skelton
Planning Section
District 9 - Oakdale

DATE: January 4, 1984

FROM: Al Pint *AP*
Traffic Forecast Engineer

PHONE: 296-0217

SUBJECT: Traffic Projections on TH 694 from TH 35E to TH 35W
TA-M 304

Projected AWDT (Average Weekday Traffic) and peak hour traffic volumes on TH 694 from TH 35E to TH 35W for the year 2008 are enclosed. In addition, a point to point movement table for the TH 694 - TH 51, Hamline Avenue Interchange is included.

Volumes shown are based on the following:

- 1) The system 3E year 2000 computer traffic assignments (AWDT and PM Peak Hour) for the Twin Cities Metropolitan Area.
- 2) "Present" traffic counts including the following data and sources.
 - a. Estimated 1982 two-way ADT on TH 694 and all cross streets except County Road "F" and Hamline Avenue from the Traffic Data Unit of Mn/DOT.
 - b. Estimated 1980 two-way ADT on County Road "F", Hamline Avenue and TH 51 from the City of Arden Hills (MSAS counts).
 - c. Directional 24 hour and peak hour counts taken in February and March of 1981 by the staff of District Nine at the following locations: all ramps and loops at the TH 694-TH 35W interchange, the TH 10 ramps at TH 694, all ramps at the TH 694-TH 51, Hamline Avenue interchange and TH 51 south of TH 694, all ramps and loops at the TH 694-Victoria Avenue interchange, all ramps at the TH 694-TH 49 (Rice Street) interchange, all movements at the TH 694-TH 35E interchange except the west to east movement on TH 694 and the south to east movement from TH 35E to TH 694.
 - d. Directional 24 hour and peak hour counts taken in August of 1983 by the Staff of District Nine at the following locations: Northbound TH 35W south of TH 694, both directions on TH 694 between TH 35W and TH 10, both directions on TH 694 between TH 51 and Lexington Avenue, all ramps at the TH 694-Lexington Avenue interchange, both directions on TH 694 between Victoria Avenue and TH 49.

Office Memorandum

STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION
Room 815

DATE: January 4, 1984

PHONE: 226-0217

TO: Jerry Skelton
Planning Section
District 9 - Oakdale
FROM: Al Bink
Traffic Forecast Engineer

SUBJECT: Traffic Projections on TH 694 from TH 35E to TH 35W
TH-M-304

Projected AWDT (Average Weekday Traffic) and peak hour traffic volumes on TH 694 from TH 35E to TH 35W for the year 2008 are enclosed. In addition, a point to point movement table for the TH 694 - TH 51 Hamline Avenue interchange is included.

Volumes shown are based on the following:

1. The system 3E year 2000 computer traffic assignments (AWDT and PM Peak Hour) for the Twin Cities Metropolitan Area.

2. "Present" traffic counts including the following data and sources:

a. Estimated 1982 two-way AWT on TH 694 and all cross streets except County Road "F" and Hamline Avenue from the Traffic Data Unit of MNDOT.

b. Estimated 1980 two-way AWT on County Road "F", Hamline Avenue and TH 51 from the City of Ankeny Hills (MSA counts).

c. Directional 24 hour and peak hour counts taken in February and March of 1981 by the staff of District Nine at the following locations: all ramps and loops at the TH 694-TH 35W interchange, the TH 10 ramps at TH 694, all ramps at the TH 694-TH 51 Hamline Avenue interchange and TH 51 south of TH 694, all ramps and loops at the TH 694-Victoria Avenue interchange, all ramps at the TH 694-TH 49 (Rice Street) interchange, all movements at the TH 694-TH 35E interchange except the west to east movement on TH 694 and the south to east movement from TH 35E to TH 694.

d. Directional 24 hour and peak hour counts taken in August of 1983 by the staff of District Nine at the following locations: northbound TH 35W south of TH 694, both directions on TH 694 between TH 35W and TH 10, both directions on TH 694 between TH 51 and Lexington Avenue, all ramps at the TH 694-Lexington Avenue interchange, both directions on TH 694 between Victoria Avenue and TH 49.

Jerry Skelton
January 4, 1984
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CAPACITY BASED ASSIGNMENT

POINT TO POINT MOVEMENTS AT THE TH 694 - TH 51

HAMLIN AVENUE INTERCHANGE

LEGEND

- e. Directional peak hour turn counts taken in the Spring and Summer of 1981 by the staff of District Nine at all ramp and loop termini at the Lexington, Victoria and TH 49 interchanges with TH 694.
 - f. Two-way 24 hour and peak hour counts taken in August of 1983 by the staff of District Nine on Victoria Avenue north and south of TH 694, and on TH 49 north of TH 694.
- 3) Several field trips to the project to examine land use patterns and to take short counts in order to examine any potential assignment problems.
 - 4) Loaded link analysis of the system 3E year 2000 AWDT computer traffic assignments on TH 35E south of TH 694, and on TH 694 west of the east junction with TH 49 (as coded on the computer network).

Extensive analysis of all the data previously mentioned resulted in estimates of 1983 and 2000 AWDT for the entire project. From these two AWDT estimates an extrapolated growth rate of 15 percent was determined to raise the 2000 AWDT to 2008 AWDT, i.e., $2008 \text{ AWDT} = 1.15 \times 2000 \text{ AWDT}$ in the entire travel area included in the project.

Peak hour volumes for the 2008 AWDT were determined on a percentage basis as a result of examining both "present" day counted percentages and the system 3E PM computer assigned percentages.

This demand peak hour traffic assignment was then reviewed and volumes were reduced at several key control points in order to more accurately estimate peak hour volume loadings near capacity limits. Other peak hour volumes were adjusted downward in order to match the volumes at the following control points:

- 1) TH 694 between TH 10 and TH 51
- 2) TH 694 east of TH 35E
- 3) TH 35E south of TH 694
- 4) TH 35W south of TH 694

This analysis assumes that an additional lane will be added to TH 694 in each direction.

This reduction was based on a soon to be released report entitled "Behavior of Peak Volumes near Capacity Limits".

The volumes presented in this report supercede the estimates presented in SPAR M-228, dated April 19, 1979.

Enclosures

CAPACITY BASED ASSIGNMENT

POINT TO POINT MOVEMENTS AT THE TH 694 - TH 51

HAMLIN AVENUE INTERCHANGE

LEGEND

000 - 2008 AWDT
00A - AM PEAK
00P - PM PEAK

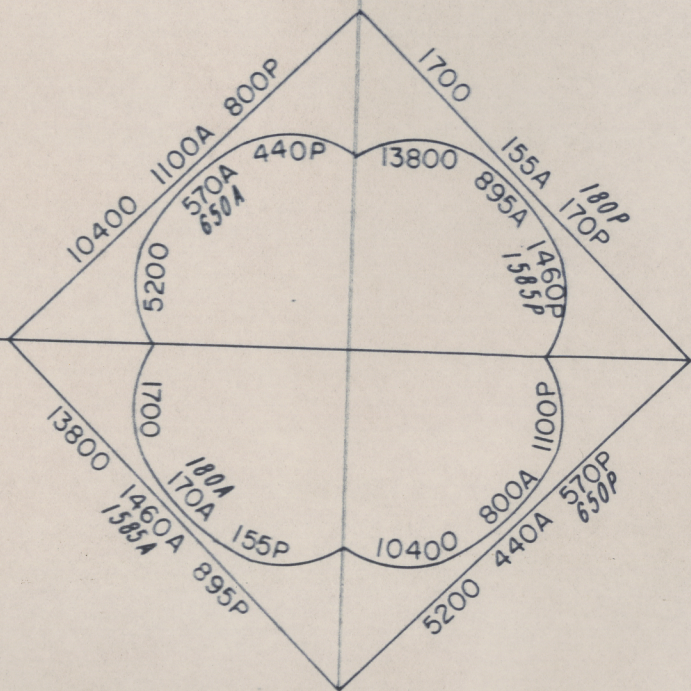
TO

FROM

	1	2	3	4	5	TOTAL
1	-- -- --	10400 1250A 730P	-- -- --	-- -- --	-- -- --	10400 1250A 730P
2	10400 730A 1250P	-- -- --	800 55A 125P	1850 370A 95P	2400 195A 240P	15450 1350A 1710P
3	-- -- --	800 125A 55P	-- -- --	350 100A 15P	1450 165A 130P	2600 390A 200P
4	-- -- --	1850 95A 370P	350 15A 100P	-- -- --	1050 55A 210P	3250 165A 680P
5	-- -- --	2400 240A 195P	1450 130A 165P	1050 210A 55P	-- -- --	4900 580A 415P
TOTAL	10400 730A 1250P	15450 1710A 1350P	2600 200A 390P	3250 680A 165P	4900 415A 580P	36600 3735A 3735P

NOTE: Only the 1 to 2 and 2 to 1 movements are changed on the demand assignment. These are shown on the blue line print.

TH 54100 4580A 5645P
 694 54100 4620A 5355P
 5355A 4620P
 5645A 4580P



TH 35W 47800 6270A 5535A 3495P
 47800 5535P 6270P
 3495A

40900 3315A 4775A 3115P
 40900 3115A 4775P 3315P

36800 3390A 3880P
 36800 3350A 3705P
 3705A 3350P
 3880A 3390P

TH 10 19600 19600
 1440A 2150P
 1425A 2150P
 1425P 1440P

56400 4830A 6330P
 56400 4775A 5860P
 5860A 4775P
 6330A 4830P

POINT

1	
2	
3	
4	
5	
6	
TOTAL	

NOTE: On
on
the

